

## REMARKS

By this amendment, claims 10 and 15 are revised to place this application in condition for allowance. Currently, claims 1-15 are before the Examiner for consideration on their merits.

In the Office Action, the Examiner objected to claims 10 and 15 as being inconsistent with their respective independent claims. Claim 10 has been revised to define just the “lubricant in liquid form” to be consistent with claim 1, and claim 15 is revised to recite “the lubricating oil” to be consistent with claim 2. In light of these amendments, the objections have been overcome and should be withdrawn.

Applicants also note the Examiner’s request for translations. However, such is not a requirement per PTO rules. Moreover and in light of the deficiencies in the prior art as pointed out below, it is believed that such a requirement is not vital for the Examiner to decide on the issues of patentability for this application.

Turning now to the prior art rejection, the Examiner has relied upon seven references in alleging that claims 1-15 are anticipated under 35 U.S.C. § 102(b) or (e). Applicants respectfully traverse the rejections on the grounds that none of the applied prior art teaches the two layer construction found in claims 1 and 2.

In review, claim 1 defines a joint construction with a lower lubricating layer which is liquid in form in a certain temperature range. A second and upper lubricant layer is present, which is in solid form at 40°C. Put another way, the solid lubricant is atop the liquid lubricant, which is atop the substrate, i.e., box or pin.

Claim 2 differs from claim 1 in that the lubricating coating is either semi-solid or solid and is a mix of a lubricating oil which is liquid within a certain temperature range, and a wax which is solid at 40°C.

The rejections are addressed below based on the applied prior art.

WO 01/165516 to Yamamoto et al. (Yamamoto)

Claim 1

Since the WIPO publication corresponds to United States Patent No. 6,679,526, it is the United States Patent that is referred to as part of Applicants' traversal. In the rejection, the Examiner relies on claims 10 and 15 to somehow support the contention that Yamamoto teaches the claimed threaded joint. It is unclear to Applicants exactly what the basis is for rejecting claims 1 and 2 over Yamamoto. The core teaching of Yamamoto is a lubricant layer of a solid lubricant dispersed and mixed in an inorganic polymeric compound, see claim 1 thereof. This film is combined with copper plating, see claim 2. The same film is combined with a rust preventive film, the rust preventive film formed on top of the lubricant film or on the other of the pin and box, see claim 5.

It is contended that the Examiner has not established a *prima facie* case of anticipation against claim 1 for the simple reason that Yamamoto does not teach a lower liquid lubricating film disposed between the substrate and an upper solid lubricant film. Even assuming that the rust preventive film could be interpreted to be the liquid film, this film is Yamamoto is not a lower film between the substrate and the lubricating film containing the solid lubricant. Also, assuming that the lubricating film is liquid in Yamamoto leads to the conclusion that there is no solid lubricant film at all.

The Examiner is requested to substantiate any further rejection of claim 1 based on Yamamoto with reference to column and line number, since such has not been done in the first Office Action.

It is further contended that there is no motivation to modify Yamamoto so as to include the features of the invention, without resort to the Applicants' disclosure as a teaching template.

Even if such an allegation were made, the advantages of the joint of claim 1 rebut any such allegation. That is, the upper solid layer is effective for providing a smooth surface as well as a lubricating effect. As explained on page 30, lines 5+, significant advantages are attained when using a solid upper lubricating film on top of a liquid film. These advantages are not realized in Yamamoto and they substantiate the contention that the threaded joint of claim 1 is novel and unobvious in light of that which is known in the prior art.

Thus, the rejection of claim 1 must be withdrawn.

### Claim 2

In the rejection, the Examiner does not even differentiate between claims 1 and 2 when making the rejection. As mentioned above, claim 2 is at least a semi-solid or solid coating, i.e., single layer, made up of a lubricating oil and a wax. No such layer is disclosed in Yamamoto. The lubricating layer of Yamamoto is a solid lubricant dispersed in an inorganic polymeric compound. It is not seen how this is the same as the semi-solid or solid coating as set forth in claim 2. Thus, Yamamoto cannot anticipate claim 2 as alleged in the Office Action, and the rejection must be withdrawn.

Moreover, there is no basis to conclude obviousness without resort to the hindsight reconstruction of the prior art in light of Applicants' disclosure.

Even if an obviousness allegation were made, the coating of claim 2 brings with it unexpected improvements in the art of threaded joints. That is, the mixture

layer gives an effect that it can act as a dry surface before use and a liquid lubricant during use, e.g., fastening or loosening. The Examiner's attention is directed to page 6, line 21+, wherein the claimed lubricating coating has a dry touch and thus does not absorb or retain foreign matter. However, during the fastening or loosening, the wax melts as a result of the heat generated thereby, a lubricating coating is created, and good anti-galling properties are realized during this use.

Therefore, the rejection of claim 2 is also misplaced and must be withdrawn. As with claim 1, the Examiner is called upon to support any further rejection with reference to column and line numbering in Yamamoto.

United States Patent No. 6,027,145 to Tsuru et al. (Tsuru)

Claim 1

The Examiner states that Tsuru teaches a solid lubricant coating, and it is not seen how such a coating is the same as the two layer coating of claim 1. While the Examiner contends that the solid lubricant coating somehow meets the claim limitations that states that the upper coating is solid at 40°C and the lower coating is a liquid between 0 and 40°C, this stance is not understood, and clarification is requested. Again, claim 1 defines a two layer lubricant coating, one solid and one liquid, with the liquid coating between the substrate and solid coating, and no such arrangement is taught or suggested by Tsuru. Therefore, the allegation that Tsuru teaches such an arrangement is in error.

There is also no basis to allege that Tsuru establish a *prima facie* case of obviousness for the reasons set forth above with regard to Yamamoto, and the rejection of claim 1 must be withdrawn. As with Yamamoto, any allegation of obviousness is

rebutted by the advancement identified in the specification and discussed above with respect to Yamamoto.

Claim 2

The same reasoning set forth above for claim 1 and the rejection based on Tsuru applies to claim 2. That is, it is unclear as to the basis for the Examiner to allege that the semi-solid or solid lubricant of a lubricating oil and a wax is disclosed in Tsuru. Lacking such a basis to establish a *prima facie* case of anticipation, the Examiner must either substantiate the rejection by reference to column and line number or withdraw it. In the rejection, the examiner cites six (6) columns of text to support the rejection, but never points to a specific location wherein Tsuru would teach the limitations found in claim 2. It is respectfully submitted that no such support exists, and without such an identification in the next action, the rejection based on 35 U.S.C. § 102(b) cannot stand.

There is also no basis to reject claim 2 based on Tsuru under 35 U.S.C. § 103(a) for the same reasons as given above for the rejection of claim 2 based on Yamamoto. As with Yamamoto, any allegation of obviousness is also rebutted by the improvements associated with the use of the mix of the lubricating oil and wax, these improvements not realized by the prior art.

Thus, the rejection of claims 1 and 2 based on Tsuru must be withdrawn.

JP 08-105582 to Tsuru (Tsuru Japan)

Claim 1

As with Tsuru, Tsuru Japan only discloses a solid lubricant coating, albeit in combination with other layers such as a nitrided layer, an iron plated layer and a manganese phosphate treatment covering layer. However, this is not the same as the two

layer joint construction of claim 1, and the failure of Tsuru Japan to teach such a joint requires withdrawal of the rejection of claim 1.

The same arguments set forth above regarding Tsuru and Yamamoto and a possible rejection under 35 U.S.C. § 103(a) are reiterated herein, and any such obviousness allegation could not be sustained on appeal. Based on the above, the rejection of claim 1 based on Tsuru Japan must be withdrawn.

### Claim 2

As with the arguments made above with respect to Tsuru, the Examiner has failed to make a *prima facie* case of anticipation based on Tsuru Japan. The solid lubricating coating of Tsuru is not a single layer of a lubricating oil and wax as claimed. Moreover, there is no basis to conclude obviousness for the reasons given above for Tsuru and Yamamoto. As such, the rejection of claim 2 based on Tsuru Japan is improper and must be withdrawn.

### United States Patent No. 6,659,509 to Goto et al. (Goto '509)

The Examiner has used the same basis to reject claims 1 and 2 over Goto '509 as used for Yamamoto, i.e., the language of claims 10 and 15. This is an impermissible basis to reject claims 1 and 2, and this error mandates withdrawal of the rejection based on this prior art reference.

In addition, Goto '509 does not teach the two layer arrangement of claim 1 or the single layer oil and wax layer of claim 2, and therefore, each of these claims is patentable thereover. The Examiner is called upon to show by column and line number the basis for any further rejection of these claims based on Goto '509.

Lastly, since Goto '509 does not disclose the invention as claimed herein, there is no need to file a Declaration under Rules 131 or 132 to overcome the rejection under 35 U.S.C. § 102(e).

United States Patent No. 6,746,057 to Goto et al. (Goto '057)

In rejecting claims 1 and 2, the Examiner cites 13 columns from the disclosure of Goto '057 to allege anticipation. It is respectfully submitted that this does not rise to the level of establishing a *prima facie* case of anticipation against either of claims 1 or 2. In addition and as explained above, the reference to claims 10 and 15 to support the rejection is misplaced. These claims only clarify the makeup of the liquid layer of the two layer arrangement of claim 1 or the lubricating oil component of the semi-solid or solid layer used in the joint of claim 2.

In addition, the invention of Goto '057 relates to the formation of a lower porous zinc or zinc alloy layer underneath a lubricating coating, which can be either solid or liquid. This is a far cry from the two layer lubricating arrangement of claim 1 or the semi-solid or solid layer of oil and wax of claim 2. Lacking both of the lubricating layer constructions, Goto '057 cannot be used under 35 U.S.C. § 102(e) to reject claims 1 or 2, and the rejection must be withdrawn.

United States Patent No. 6,827,996 to Goto et al. (Goto '996)

The rejection based on Goto '996 fails for the same reasons as set forth above for Goto '509 and Goto '057. Goto '996 is directed to a solid lubricating coating that does not require a compound grease containing heavy metal. This is neither the two layer construction of claim 1 nor the semi-solid or solid single layer mixture of an oil and

wax of claim 2. Therefore, the rejections based on Goto '996 are in error just as the rejections based on the other Goto patents. Accordingly, the rejections based on Goto '996 should be withdrawn.

United States Patent No. 6,869,111 to Goto et al. (Goto '111)

The rejection based on Goto '111 is flawed for the same reasons as the other rejections relying on the other Goto patents. Goto '111 teaches a lubricating coating that has a base lubricant and a thermoplastic resin, see claim 1. This reference does not disclose the features of claims 1 or 2. The Examiner's citation of 13 columns fails to present a basis to conclude that Goto '111 establishes a *prima facie* case of anticipation against either of claims 1 or 2.

As with the other arguments above regarding the Goto patents, the Examiner is called upon to substantiate any further rejection by identification of the appropriate column and line number in the applied reference.

SUMMARY

It is respectfully contended that the Examiner has failed to establish a *prima facie* case of anticipation against either of claims 1 or 2. That is, none of the applied references teach the two layer lubricant arrangement of claim 1 or the mixture of claim 2. In addition, there is no basis to conclude that the prior art could somehow be modified so as to arrive at the invention defined by claims 1 and 2. Therefore, all rejections are improper and must be withdrawn. Since claims 1 and 2 are patentably distinct from the applied prior art, their respective dependent claims are also in condition for allowance.

Accordingly, the Examiner is requested to examine this application in light of the arguments made above and pass claims 1-15 onto issuance.

If the Examiner believes that an interview would expedite the prosecution of this application, the Examiner is requested to contact the undersigned at 202-835-1753.

The above constitutes a complete response to all issues raised in the Office Action dated July 25, 2005.

Again, reconsideration and allowance of this application is respectfully requested.

Applicants respectfully submit that there is no fee required for this submission, however, please charge any fee deficiency or credit any overpayment to Deposit Account No. 50-1088.

Respectfully submitted,  
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